WHAT IS CLAIMED IS:

1. A composition comprising:

a) both:

i) a substantially pure polypeptide comprising a plurality of distinct segments of at least 7 contiguous amino acid from IL-12 p40; and

ii) a substantially pure polypeptide comprising a plurality of distinct segments of at least 7 contiguous amino acids from IL-B30;

b) both:

i) a substantially pure polypeptide comprising at least 11 contiguous amino acids from IL-12 p40; and

ii) a substantially pure polypeptide comprising at least 11 contiguous amino acids from IL-B30;

c) a substantially pure polypeptide comprising both:

i) a plurality of distinct segments of at least 7 contiguous amino acids of IL-12 p40; and

ii) a plurality of distinct segments of at least 7 contiguous amino acids of IL-B30; or

d) a substantially pure polypeptide comprising both:

i) a segment of at least 11 contiguous amino acids of IL-12 p40; and

ii) a segment of at least 11 contiguous amino acids of IL-B30;

2. The composition of Claim 1:

a) wherein said plurality of distinct segments of at least 7 contiguous amino acids comprise one segment of at least 9 contiguous amino acids;

b) wherein said plurality of distinct segments of at least 7 contiguous amino acids are both at least 9 contiguous amino acids;

c) wherein said segment of at least 11 contiguous amino acids of IL-12 p40 is at least 15 contiguous amino acids;

d) wherein said segment of at least 11 contiguous amino acids of IL-B30 is at least 15 contiguous amino acids;

e) further comprising a carrier selected from an aqueous compound, including water, saline, and/or buffer;

f) formulated for oral, rectal, nasal, topical, or parenteral administration; or

g) which is sterile composition.

3. A composition of Claim 1:

a) wherein at least one of said polypeptides is:
   i) detectably labeled;
   ii) recombinantly produced;
   iii) unglycosylated;
   iv) denatured;
   v) attached to a solid substrate; or
   vi) conjugated to another chemical moiety;

b) comprising both:
   i) a substantially pure IL-12 p40 polypeptide; and
   ii) a substantially pure IL-B30 polypeptide;

c) comprising a substantially pure polypeptide comprising IL-12 p40 fused to IL-B30; or

d) combined with IL-18, IL-12, radiation or chemotherapy, an immune adjuvant, or an anti-viral.

4. A kit comprising a composition of Claim 1, and:

a) a compartment comprising said polypeptide; or

b) instructions for use or disposal of reagents in said kit.

5. An isolated or recombinant nucleic acid encoding:

a) both:
   i) a substantially pure polypeptide comprising a plurality of distinct segments of at least 7 contiguous amino acid from IL-12 p40; and
   ii) a substantially pure polypeptide comprising a plurality of distinct segments of at least 7 contiguous amino acids from IL-B30;

b) both:
   i) a substantially pure polypeptide comprising at least 11 contiguous amino acids from IL-12 p40; and
   ii) a substantially pure polypeptide comprising at least 11 contiguous amino acids from IL-B30;

c) a substantially pure polypeptide comprising both:
   i) a plurality of distinct segments of at least 7 contiguous amino acids of IL-12 p40; and
   ii) a plurality of distinct segments of at least 7 contiguous amino acids of IL-B30; or

d) a substantially pure polypeptide comprising both:
   i) a segment of at least 11 contiguous amino acids of IL-12 p40; and
   ii) a segment of at least 11 contiguous amino acids of IL-B30.

6. The nucleic acid of Claim 5:

a) wherein said plurality of distinct segments of at least 7 contiguous amino acids comprise one segment of at least 9 contiguous amino acids;

b) wherein said plurality of distinct segments of at least 7 contiguous amino acids are both at least 9 contiguous amino acids;

c) wherein said segment of at least 11 contiguous amino acids of IL-12 p40 is at least 15 contiguous amino acids;

d) wherein said segment of at least 11 contiguous amino acids of IL-B30 is at least 15 contiguous amino acids;

e) wherein said IL-12 p40 is from a primate;

f) wherein said IL-B30 is from a primate;

g) which is an expression vector;

h) which further comprises an origin of replication;

i) which comprises a detectable label;

j) which comprises synthetic nucleotide sequence;

k) which is less than 6 kb, preferably less than 3 kb; or

l) which is from primate.

7. A cell comprising said recombinant nucleic acid of Claim 6.

8. The cell of Claim 7, wherein said cell is:

a) a prokaryotic cell;

b) a eukaryotic cell;

c) a bacterial cell;

d) a yeast cell;

e) an insect cell;

f) a mammalian cell;

g) a mouse cell;

h) a primate cell; or

i) a human cell.

9. A kit comprising said nucleic acid of Claim 6, and:

a) a compartment comprising said nucleic acid;

b) a compartment further comprising a primate IL-12 p40 polypeptide; or

c) a compartment further comprising a primate IL-B30 polypeptide; or

d) instructions for use or disposal of reagents in said kit.

10. A nucleic acid which hybridizes:

a) under wash conditions of 30 minutes at 50° C and less than 1M salt to the natural mature coding portion of primate IL-12 p40; and

b) under wash conditions of 30 minutes at 50° C and less than 1M salt to the natural mature coding portion of primate IL-B30.

11. The nucleic acid of Claim 10, wherein:

a) said wash conditions for IL-12 p40 are at 60° C and less than 400 mM salt;

b) said wash conditions for IL-B30 are at 60° C and less than 400 mM salt;

c) said nucleic acid exhibits identity over a stretch of at least 50 nucleotides to sequence encoding primate IL-12 p40; and/or

d) said nucleic acid exhibits identity over a stretch of at least 50 nucleotides to sequence encoding primate IL-B30.

12. The nucleic acid of Claim 10, wherein:

a) said wash conditions for IL-12 p40 are at 65° C and less than 150 mM salt;

b) said wash conditions for IL-B30 are at 65° C and less than 150 mM salt;

c) said nucleic acid exhibits identity over a stretch of at least 90 nucleotides to sequence encoding primate IL-12 p40; and/or

d) said nucleic acid exhibits identity over a stretch of at least 90 nucleotides to sequence encoding primate IL-B30.

13. An antagonist of IL-12 p40/IL-B30 combined with:

a) a TNFα antagonist;

b) an IL-12 antagonist;

c) IL-10; or

d) steroids.

14. A binding compound comprising an antigen binding site from an antibody, which specifically binds to a composition of Claim 1:

a) comprising a substantially pure polypeptide comprising both:

i) a substantially pure IL-12 p40 polypeptide; and

ii) a substantially pure IL-B30 polypeptide; or

b) comprising a substantially pure polypeptide comprising IL-12 p40 fused to IL-B30; but not to either IL-12 p40 or IL-B30 polypeptide.

15. The binding compound of Claim 14, wherein:

a) said binding compound is in a container;

b) said binding compound is an Fv, Fab, or Fab2 fragment;

c) said binding compound is conjugated to another chemical moiety; or

d) said antibody:

i) is raised against a composition of Claim 1;

ii) is immunoselected;

iii) is a polyclonal antibody;

iv) exhibits a Kd to antigen of at least 30 mM;

v) is attached to a solid substrate, including a bead or plastic membrane;

vi) is in a sterile composition; or

vii) is detectably labeled, including a radioactive or fluorescent label.

16. A kit comprising said binding compound of Claim 15, and:

a) a compartment comprising said binding compound; or

b) instructions for use or disposal of reagents in said kit.

17. A method of producing an antigen:antibody complex, comprising contacting, under appropriate conditions, a primate IL-12 p40/IL-B30 composition with an antibody of Claim 14, thereby allowing said complex to form.

18. The method of Claim 17, wherein:

a) said complex is purified from other cytokines;

b) said complex is purified from other antibody;

c) said contacting is with a sample comprising a cytokine;

d) said contacting allows quantitative detection of said antigen;

e) said contacting is with a sample comprising said antibody; or

f) said contacting allows quantitative detection of said antibody.

19. A composition comprising:

a) a sterile binding compound of Claim 14; or

b) said binding compound of Claim 14 and a carrier, wherein said carrier is:

i) an aqueous compound, including water, saline, and/or buffer; and/or

ii) formulated for oral, rectal, nasal, topical, or parenteral administration.

20. A method of modulating physiology or development of a cell or tissue comprising contacting said cell with a composition of Claim 1, or antagonist thereof.

21. A method of modulating physiology or development of a cell comprising contacting said cell with a composition of Claim 1, and said contacting results in an increase in production of IFNγ.

22. The method of Claim 21, wherein said cell is in a host organism, and said organism exhibits an enhanced Th1 response.

23. The method of Claim 22, wherein said Th1 response is selected from:

a) anti-tumor effect;
b) adjuvant effect;
c) anti-viral effect; or
d) antagonized allergic effect.

24. A method of modulating physiology or development of a cell in a host organism, comprising administering to said organism a composition of Claim 1, wherein said contacting results in an:

a) anti-tumor effect;
b) adjuvant effect;
c) anti-viral effect; or
d) antagonized allergic effect.

25. The method of Claim 24, wherein said contacting is in combination with:

a) IL-18;
b) IL-12;
c) radiation therapy or chemotherapy;
d) an immune adjuvant; or
e) an anti-viral therapeutic.

26. The method of Claim 24, wherein said antagonist is an antibody against IL-12 receptor subunit β1.

27. The method of Claim 24, wherein said contacting is with an antagonist, and said contacting results in a relative decrease in production of IFNγ.

28. A method of modulating physiology or development of a cell in a host organism, comprising administering said antagonist to said organism, wherein said contacting results in amelioration of:

a) an autoimmune condition; or

b) a chronic inflammatory condition.

29. A method of increasing the secretion of:

a) a primate IL-B30 comprising expressing said polypeptide with IL-12 p40; or

b) a primate IL-12 p40 comprising expressing said IL-12 p40 with IL-B30.

30. The method of Claim 28, wherein:

a) said increasing is at least 3-fold; or

b) said expressing is of a recombinant nucleic acid encoding IL-B30 and IL-12 p40.

31. A method of screening for a receptor which binds said composition of Claim 3, comprising contacting said complex to a cell expressing said receptor under conditions allowing said complex to bind to said receptor, thereby forming a detectable interaction.

32. The method of Claim 31, wherein said interaction results in a physiological response in said cell.

33. A method of modulating the inflammatory response in an animal, said method comprising contacting cells in said animal with a therapeutic amount of:

a) an agonist of a mammalian IL-B30 protein; or

b) an antagonist of a mammalian IL-B30 protein.

34. The method of Claim 33, wherein said:

a) mammalian IL-B30 protein is a primate protein; or

b) antagonist is an antibody which binds to said mammalian IL-B30;

c) antagonist is an antibody which blocks signaling mediated by mammalian IL-B30.

35. The method of Claim 33, wherein said animal exhibits signs or symptoms of an acute phase inflammatory response.

36. The method of Claim 33, wherein said sign or symptom is found in skin tissue; lung tissue; gastrointestinal tissue; or liver tissue.

37. The method of Claim 35, wherein said sign or symptom is found in skin tissue; lung tissue; gastrointestinal tissue; or liver tissue.

38. The method of Claim 33, wherein said modulating is accelerating maturation of neutrophils into platelets.

39. The method of Claim 33, wherein said modulating has an effect on IgA.

40. The method of Claim 33, wherein said modulating has an effect on IgG.

41. The method of Claim 38, wherein said administering is said agonist.

42. The method of Claim 39, wherein said administering is said agonist.

43. The method of Claim 40, wherein said administering is said agonist.

44. The method of Claim 41, wherein

a) said agonist is mammalian IL-B30 protein; or

b) said animal is experiencing signs or symptoms of an inflammatory condition.

45. The method of Claim 42, wherein

a) said agonist is mammalian IL-B30 protein; or

b) said animal is experiencing signs or symptoms of an inflammatory condition.

46. The method of Claim 43, wherein

a) said agonist is mammalian IL-B30 protein; or

b) said animal is experiencing signs or symptoms of an inflammatory condition.

47. The method of Claim 44, wherein said administering is in combination with:

a) an anti-inflammatory cytokine agonist or antagonist;

b) an analgesic;

c) an anti-inflammatory agent; or

d) a steroid.

48. The method of Claim 45, wherein said administering is in combination with:

a) an anti-inflammatory cytokine agonist or antagonist;

b) an analgesic;

c) an anti-inflammatory agent; or

d) a steroid.

49. The method of Claim 46, wherein said administering is in combination with:

a) an anti-inflammatory cytokine agonist or antagonist;

b) an analgesic;

c) an anti-inflammatory agent; or

d) a steroid.

50. A method of inducing the proliferation of memory T-cells by administering IL-B30 or an agonist thereof.

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